National Institute of Environmental Health Sciences

The association between farming activities, precipitation, and the risk of acute gastrointestinal illness in rural municipalities of Quebec, Canada: A cross-sectional study

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Abstract:

BACKGROUND: Increasing livestock density and animal manure spreading, along with climate factors such as heavy rainfall, may increase the risk of acute gastrointestinal illness (AGI). In this study we evaluated the association between farming activities, precipitation and AGI. METHODS: A cross-sectional telephone survey of randomly selected residents (n Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 7006) of 54 rural municipalities in Quebec, Canada, was conducted between April 2007 and April 2008. AGI symptoms and several risk factors were investigated using a phone questionnaire. We calculated the monthly prevalence of AGI, and used multivariate logistic regression, adjusting for several demographic and risk factors, to evaluate the associations between AGI and both intensive farming activities and cumulative weekly precipitation. Cumulative precipitation over each week, from the first to sixth week prior to the onset of AGI, was analyzed to account for both the delayed effect of precipitation on AGI, and the incubation period of causal pathogens. Cumulative precipitation was treated as a four-category variable: high (> or Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 90th percentile), moderate (50th to

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2834625

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Public

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Precipitation

Food/Water Quality: Pathogen

Geographic Feature: ☑

resource focuses on specific type of geography

Freshwater

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease (other): acute gastrointestinal illness

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Elderly, Low Socioeconomic Status, Workers

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content